

ATTORNEY DOCKET NO. 19133.0006U3
PATENT-UTILITY FILING

We claim:

1. A carpet comprising
 - a) yarn tufted into a primary backing, wherein the primary backing has a face side and a back side and wherein the yarn is adhesively attached to the primary backing with an adhesive;
 - b) a woven secondary backing having a first side and a second side, wherein the first side is directly or indirectly attached to the back side of the primary backing; and
 - c) a thermoplastic polymer layer adjacent to the second side of the secondary backing, wherein the polymer layer is attached to the secondary backing via melt bonding.
2. The carpet of claim 1, wherein the carpet exhibits reduced permeability to moisture, as compared to a carpet not having the thermoplastic polymer layer.
3. The carpet of claim 1, wherein the carpet exhibits a decreased coefficient of friction on a side opposite the yarn, as compared to a carpet not having the thermoplastic polymer layer.
4. The carpet of claim 1, wherein the yarn comprises one or more of: wool, cotton, nylon, acrylic, polytrimethyleneetherphthalate, polyester, or polypropylene.
5. The carpet of claim 1, wherein the adhesive comprises one or more of: latex, polyethylene, ethylene acrylic acid, carboxylated SBR, ethylene vinyl acetate (EVA), polyvinyl chloride (PVC), or polyurethane.
6. The carpet of claim 1, wherein the adhesive does not comprise a hot melt.

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7. The carpet of claim 1, wherein the primary backing comprises one or more of: jute, wool, polypropylene, polyethylene, polyamide, polyesters, or rayon.
8. The carpet of claim 1 further comprising an intermediate layer which comprises one or more of: fiberglass, foam, or metal mesh, wherein the intermediate layer is oriented adjacent to the back side of the primary backing and the first side of the secondary backing.
9. The carpet of claim 1, wherein the secondary backing comprises one or more of: jute, wool, polypropylene, polyethylene, polyamide, polyester, or rayon.
10. The carpet of claim 1, wherein thermoplastic polymer layer comprises a single layer.
11. The carpet of claim 1, wherein the thermoplastic polymer layer comprises two or more layers, with each layer comprising at least one thermoplastic polymer.
12. The carpet of claim 1, wherein the thermoplastic polymer layer comprises one or more of: styrene butadiene latex compounds, acrylic modified styrene butadiene compounds, urethane compounds, polyvinyl chloride, ULDPE, LDPE, MDPE, HDPE, SLEP, HBLEP, ethylene acrylic acid copolymer, ethylene ethyl acrylate copolymer, polystyrene, polypropylene, polyester, polybutylene, polyamide, polycarbonate, rubbers, ethylene propylene polymers, ethylene styrene polymers, styrene block copolymers, vulcanates, or vinyl acetate ethylene.
13. The carpet of claim 12, wherein the thermoplastic polymer comprises one or more of: ULDPE, LDPE, MDPE, HDPE, SLEP, HBLEP, or EVA.

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14. The carpet of claim 1, wherein the thermoplastic polymer layer further comprises an additive comprising one or more of: flame retardants, antioxidants, antimicrobials, smoke suppressants, wetting agents, or frothing aids.
15. The carpet of claim 1, wherein the thermoplastic polymer layer is present on the carpet at from about less than or equal to 10 ounces by weight per square yard of carpet.
16. The carpet of claim 15 wherein the thermoplastic polymer layer is present on the carpet at from about 4 to about 10 ounces by weight per square yard of carpet.
17. The carpet of claim 15 wherein the thermoplastic polymer layer is present on the carpet at from about 0.5 to about 4 ounces by weight per square yard of carpet.
18. The carpet of claim 1 wherein the carpet is in the form of a carpet tile.
19. A method of manufacturing a carpet having a thermoplastic polymer layer wherein the method comprises:
- a) tufting a yarn into a primary backing, wherein the primary backing has a face side and a back side;
 - b) adhesively affixing the yarn to the primary backing with an adhesive;
 - c) providing a woven secondary backing having a first side and a second side;
 - d) attaching directly or indirectly the first side of the secondary backing to the back side of the primary backing; and

- e) applying a thermoplastic polymer layer to the second side of the secondary backing under conditions suitable to melt bond the thermoplastic polymer layer to the secondary backing.
20. The method of claim 19, wherein the carpet exhibits reduced moisture permeability, as compared to a carpet not having the thermoplastic polymer layer.
21. The method of claim 19, wherein the carpet exhibits a decreased coefficient of friction on a side opposite the yarn, as compared to a carpet not having the thermoplastic polymer layer.
22. The method of claim 19, wherein the thermoplastic polymer layer is applied via extrusion.
23. The method of claim 19, wherein the thermoplastic polymer layer is applied via film lamination.
24. The method of claim 19, wherein the yarn comprises one or more of: wool, cotton, nylon, acrylic, polytrimethylenetheraphthalate, polyester, or polypropylene.
25. The method of claim 19, wherein the adhesive comprises one or more of: latex, polyethylene, ethylene acrylic acid, carboxylated SBR, ethylene vinyl acetate (EVA), polyvinyl chloride (PVC), or polyurethane.
26. The method of claim 19, wherein the adhesive does not comprise a hot melt.
27. The method of claim 19, wherein the primary backing comprises one or more of: jute, wool, polypropylene, polyethylene, polyamide, polyesters, or rayon.
28. The method of claim 19 further comprising attaching an intermediate layer between the back side of the primary backing and the first side of the secondary

backing wherein the intermediate layer comprises one or more of: fiberglass, foam, or wire stabilizer mesh.

29. The method of claim 19, wherein the secondary backing comprises one or more of: jute, wool, polypropylene, polyethylene, polyamide, polyesters, or rayon.

30. The method of claim 19, wherein thermoplastic polymer layer comprises a single layer.

31. The method of claim 19, wherein the thermoplastic polymer layer comprises two or more layers, with each layer comprising at least one thermoplastic polymer.

32. The method of claim 19, wherein the thermoplastic polymer layer comprises one or more of: styrene butadiene latex compounds, acrylic modified styrene butadiene compounds, urethane compounds, polyvinyl chloride, ULDPE, LDPE, MDPE, HDPE, SLEP, HBLEP, ethylene acrylic acid copolymer, ethylene ethyl acrylate copolymer, polystyrene, polypropylene, polyester, polybutylene, polyamide, polycarbonate, rubbers, ethylene propylene polymers, ethylene styrene polymers, styrene block copolymers, vulcanates, or vinyl acetate ethylene.

33. The method of claim 32, wherein the thermoplastic polymer comprises one or more of: ULDPE, LDPE, MDPE, HDPE, SLEP, HBLEP, or EVA.

34. The method of claim 19, wherein the thermoplastic polymer layer further comprises an additive comprising one or more of: flame retardants, antioxidants, antimicrobials, smoke suppressants, wetting agents, or frothing aids.

35. The method of claim 19, wherein the thermoplastic polymer layer is present on the carpet at from about less than or equal to 10 ounces by weight per square yard of carpet.

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36. The method of claim 35 wherein the thermoplastic polymer layer is present on the carpet at from about 4 to about 10 ounces by weight per square yard of carpet.
37. The method of claim 35 wherein the thermoplastic polymer layer is present on the carpet at from about 0.5 to about 4 ounces by weight per square yard of carpet.
38. The method of claim 31 wherein the thermoplastic polymer layer comprises a first polymer layer having first and second sides, wherein the first side of the first polymer layer is adjacent to the secondary backing, and a second polymer layer is adjacent to the second side of the first polymer layer and wherein the first polymer layer has a lower melt temperature than the second polymer layer.
39. The method of claim 19 further comprising cutting the carpet into carpet tiles.